

Application Serial No. 10/010,304
Amendment dated April 30, 2008
Reply to Office Action dated January 30, 2008

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AMENDMENTS TO THE CLAIMS

The following listing of claims contains all claims that are, or ever were, in the present patent application. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1-5 (canceled).

6 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. identifying a first solvent that is capable of dissolving a solid form of the polymer;
- c. identifying a second solvent that does not dissolve the polymer in solid form, but instead merely swells the solid polymer;
- d. providing at least sufficient first solvent to said polymer as to dissolve the polymer in the first solvent to form a solution;
- e. adding a quantity of the second solvent to the solution, wherupon an entire volume of the solution and added second solvent increases in viscosity;
- f. continuing the adding of the second solvent until the viscosity of the solution and added second solvent increases to a point where the entire volume of solution and added second solvent has become a gel that is suitable for shape-forming;
- g. shape-forming the gel; and
- h. removing the first and second solvents from the gel.

7 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. identifying a solvent that is capable of dissolving a solid form of the polymer;
- c. identifying a liquid that does not dissolve the polymer in solid form, but instead merely swells the solid polymer;

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- d. providing at least sufficient solvent to said polymer as to dissolve the polymer in the solvent to form a solution;
- e. adding a quantity of the liquid to the solution, whereupon the entire volume of the solution and added liquid begins to thicken;
- f. continuing the adding of the liquid until a viscosity of the solution increases to a point where the entire volume of solution and added liquid has transformed to a gel that is suitable for shape-forming;
- g. shape-forming the gel; and
- h. removing the solvent and liquid from the gel.

8 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. identifying a liquid swelling agent that does not dissolve the polymer in solid form, but instead merely swells the solid polymer;
- c. dissolving the polymer in a solvent to form a solution;
- d. adding a quantity of the liquid swelling agent to the solution, whereupon the entire volume of the solution and added liquid swelling agent begins to thicken in viscosity;
- e. continuing the adding of the liquid swelling agent until the viscosity of the solution and added liquid swelling agent increases to a point where the entire volume of solution and added liquid swelling agent has transformed to a transparent gel;
- f. shape-forming the gel; and
- g. removing the solvent and liquid swelling agent from the gel.

9 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. b. identifying a liquid swelling agent that does not substantially dissolve a selected polymer in solid form, but instead merely swells the solid polymer;
- c. dissolving the selected polymer in a solvent to form a solution;
- d. adding a quantity of the liquid swelling agent to the solution, whereupon an entire volume of the solution and added liquid swelling agent begins to increase in viscosity;

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- e. continuing the adding of the liquid swelling agent until the viscosity of the solution and added liquid swelling agent increases to a point where the entire volume of solution and added liquid swelling agent has become a gel that is suitable for shape-forming; and
- f. removing the solvent and liquid swelling agent from the gel.

10 (currently amended). The process of any of claims 6, 7, 8 or 9, wherein the biologically active agent comprises at least one member selected from the group consisting of ~~is selected from~~ one or more of the following: physiologically acceptable drugs, surfactants, ceramics, hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, glycosaminoglycans, proteins, hormones, antigens, viruses, and cells or cellular components.

11-13 (canceled).

14 (currently amended). A process for creating a porous polymeric body of desired shape, comprising the steps of:

- a. selecting a polymer;
- b. identifying a first solvent that is capable of dissolving a solid form of the polymer;
- c. identifying a second solvent that does not dissolve the polymer in solid form, but instead merely swells the solid polymer;
- d. providing at least sufficient first solvent to said polymer as to dissolve the polymer in the first solvent to form a solution;
- e. adding a quantity of the second solvent to the solution, whereupon the entire volume of the solution and added second solvent begins to gel;
- f. continuing the adding of the second solvent until a viscosity of the gel developing from the entire volume of solution and added second solvent increases to a point where the gel is suitable for shape-forming;
- g. shape-forming the gel; and
- h. removing the first and second solvents from the gel, wherein the polymer comprises a polyurethane, and further wherein the first solvent comprises tetrahydrofuran, and the second solvent comprises at least one solvent selected from the group consisting of p-dioxane, dimethyl sulfoxide and o-xylene.

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15-17 (canceled).

18-27 (canceled).

28 (currently amended). A process for creating a composite body comprising a porous polymeric body, the process comprising the steps of:

- a. dissolving a selected polymer in a solvent to form a solution;
- b. adding a suitable liquid to the solution that causes the entire volume of the solvent/polymer solution and added liquid to thicken into a gel;
- c. placing the gel in contact with at least one other material; and
- d. removing the liquid and solvent, thereby leaving a porous polymer and the at least one other material, wherein said porous polymer and said at least one other material are mechanically bound to each other, wherein the selected polymer comprises a polyurethane, and further wherein the solvent comprises tetrahydrofuran, and the liquid comprises at least one liquid selected from the group consisting of p-dioxane, dimethyl sulfoxide and o-xylene.

29-32 (canceled).

33 (previously presented). The process of claim 28, wherein the other material is biodegradable.

34 (previously presented). The process of claim 28, wherein the other material provides reinforcement to the porous polymer.

35 (previously presented). The process of claim 28, wherein the other material comprises at least one form selected from the group consisting of reinforcing threads, reinforcing rings, sutures and tacks.

36 (previously presented). The process of claim 28, wherein the porous polymeric body comprises a prosthesis, and the other material aids in attaching the prosthesis to host tissue.

37 (previously presented). The process of claim 28, wherein the other material is a biologically active agent.

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38 (previously presented). The process of claim 37, wherein the biologically active agent is selected from one or more of the following: physiologically acceptable drugs, surfactants, ceramics, hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, glycosaminoglycans, proteins, hormones, antigens, viruses, cells or cellular components.

39 (previously presented). The process of claim 28, wherein the composite body is a component of a larger body.

40 (previously presented). The process of claim 7, wherein forming of the polymer gel comprises at least one technique selected from the group consisting of (i) spreading the gel onto an open smooth or textured surface, and (ii) injecting the gel into a mold.

41 (previously presented). The process of claim 8, wherein forming of the polymer gel comprises at least one technique selected from the group consisting of (i) spreading or injecting the gel over a three-dimensional object, and removing the three-dimensional object after removing the first and second solvent from the gel; and (ii) forcing a three-dimensional object into a volume of the gel, and removing the three-dimensional object after removing the first and second solvent from the gel.

42 (previously presented). The process of claim 8, wherein a biologically active agent is provided to the porous polymer by at least one technique selected from the group consisting of (i) mixing with the polymer and first solvent prior to addition of the second solvent, (ii) mixing with the second solvent prior to addition to the first solvent/polymer solution, and (iii) mixing with the gel prior to removal of the first and second solvents.

43 (previously presented). The process of claim 8, wherein a biologically active agent is incorporated within the pores of the polymeric body after removal of the first and second solvent.

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44 (currently amended). The process of any of claims 6, 7, 8 or 9, wherein the biologically active agent comprises at least one member selected from the group consisting of is selected from one or more of the following: physiologically acceptable drugs, surfactants, ceramics, hydroxyapatites, tricalciumphosphates, antithrombogenic agents, antibiotics, biologic modifiers, glycosaminoglycans, proteins, hormones, antigens, viruses and cells or cellular components.

45 (previously presented). The process of claim 8, wherein the gel is placed in contact with a separate body, after which the first and second solvent are removed, leaving the porous polymer mechanically bound to the body.

46 (previously presented). The process of claim 8, wherein the polymer comprises a polyurethane.

47 (previously presented). The process of claim 46, wherein the first solvent comprises at least one solvent selected from the group comprising dimethyl acetamide, n-methyl pyrrolidinone and tetrahydrofuran.

48 (previously presented). The process of claim 46, wherein the first solvent comprises tetrahydrofuran, and the second solvent comprises at least one solvent selected from the group comprising p-dioxane, dimethyl sulfoxide and o-xylene.

49 (currently amended). The process of any of claims 6-9, wherein the polymer comprises at least one polymer selected from the group consisting of polyureas, polyethylenes, polyesters, fluoropolymers and lactic acid polymers.

50 (previously presented). The process of any of claims 6-9, wherein said solvent and said liquid are each selected from the group consisting of acetone; chloroform; p-dioxane; methylene chloride; N, n-dimethyl acetamide; dimethyl sulfoxide; 1-methyl-2-pyrrolidone; tetrahydrofuran; toluene, m-xylene; o-xylene, methyl-ethyl-ketone and benzene.

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51 (previously presented). The process of any of claims 6-9, wherein said liquid is selected from the group consisting of acetone, chloroform, p-dioxane, methylene chloride, dimethyl sulfoxide, 1-methyl-2-pyrrolidone, toluene, m-xylene, o-xylene, methyl-ethyl-ketone and benzene

52 (new). The process of claim 6, further comprising avoiding the use of a substance consisting of water or ethanol to help coagulate said solution.